

## CLAIMS

What is claimed is:

1. In a computing environment, a method of operation comprising  
receiving a pull direction of a modeled object; and  
5 causing the modeled object to be displayed with colors to indicate draft  
angles relative to the pull direction at various locations of the modeled object,  
employing a color map specifying a spectrum of colors for a plurality of trigonometric  
values of draft angles.
2. The method of claim 1, wherein said causing comprises providing a plurality  
10 of geometric parameter values of the various locations of the modeled object to a  
set of graphics services of the computing environment, the graphics services being  
equipped to compute the trigonometric values of the draft angles relative to the pull  
direction at the various locations based at least in part on the provided geometric  
parameter values, and access the color map for colors to be associated with pixels  
15 corresponding to the different locations based on the computed corresponding  
trigonometric values.
3. The method of claim 2, wherein the trigonometric values of the draft angles  
comprise sine values of the draft angles.
4. The method of claim 3, wherein the geometric parameter values comprise  
20 geometric parameter values for computing cosine values of corresponding  
complementary angles having a right angle relationship with the draft angles.

5. The method of claim 4, wherein the geometric parameter values comprise component values of normal vectors at the various locations of the modeled objects.

6. The method of claim 5, wherein the component values of normal vectors at the various locations of the model objects are provided as texture coordinates.

5 7. The method of claim 4, wherein the geometric parameter values comprise component values of the pull direction vector.

8. The method of claim 7, wherein the component values of the pull direction vector are provided as a transformation matrix of a texturing operation.

9. The method of claim 4, wherein the method further comprises initializing the  
10 color map as a texture map.

10. The method of claim 1, wherein said receiving and causing are performed in real time.

11. An apparatus comprising:

storage medium having stored therein a plurality of programming instructions  
15 designed to enable the apparatus to

receive a pull direction of a modeled object, and

causing the modeled object to be displayed with colors to indicate draft

angles relative to the pull direction at various locations of the modeled

object, employing a color map specifying a spectrum of colors for a

20 plurality of trigonometric values of draft angles; and

at least one processor coupled to the storage medium to execute the programming instructions.

12. The apparatus of claim 11, wherein

the apparatus further comprises a set of graphics services equipped to

compute the trigonometric values of the draft angles relative to the pull

direction at the various locations based at least in part on geometric

5 parameter values of the various locations, and access the color map for

colors to be associated with pixels corresponding to the different locations

based on the computed corresponding trigonometric values; and

said programming instructions are designed to perform said causation by

providing the plurality of geometric parameter values of the various

10 locations of the modeled object to the graphics services.

13. The apparatus of claim 12, wherein the trigonometric values of the draft

angles comprise sine values of the draft angles.

14. The apparatus of claim 13, wherein the geometric parameter values comprise

geometric parameter values for computing cosine values of corresponding

15 complementary angles having a right angle relationship with the draft angles.

15. The apparatus of claim 14, wherein the geometric parameter values comprise

component values of normal vectors at the various locations of the modeled objects.

16. The apparatus of claim 15, wherein the graphics services comprises a

graphics hardware equipped to texture a surface an object, and the component

20 values of normal vectors at the various locations of the model objects are provided

to the graphics services as texture coordinates.

17. The apparatus of claim 14, wherein the geometric parameter values comprise component values of the pull direction vector.

18. The apparatus of claim 17, wherein the graphics services comprises a graphics hardware equipped to texture a surface an object, and the component  
5 values of the pull direction vector are provided to the graphics services as a transformation matrix of a texturing operation.

19. The apparatus of claim 14, wherein the graphics services comprises a graphics hardware equipped to texture a surface an object, and the programming instructions are further designed to initialize the color map as a texture map.

10 20. The apparatus of claim 11, wherein the programming instructions are designed to perform said receiving and causing in real time.

21. An article of manufacture comprising

a machine readable medium;

a plurality of programming instructions stored on the machine readable

15 medium, designed to enable an apparatus to

receive a pull direction of a modeled object, and

cause the modeled object to be displayed with colors to indicate draft

angles relative to the pull direction at various locations of the modeled

object, employing a color map specifying a spectrum of colors for a

20 plurality of trigonometric values of draft angles.

22. The article of claim 21, wherein the programming instructions are designed to perform said causation by providing the plurality of geometric parameter values of

the various locations of the modeled object to a set of graphics services, the graphics services being equipped to compute the trigonometric values of the draft angles relative to the pull direction at the various locations based at least in part on geometric parameter values of the various locations, and access the color map for  
5 colors to be associated with pixels corresponding to the different locations based on the computed corresponding trigonometric values.

23. The article of claim 22, wherein the trigonometric values of the draft angles comprise sine values of the draft angles.